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20000098510 Research and Technology Organization, Human Factors and Medicine, Neuilly-sur-Seine, France

Officer Selection *La Selection des Officiers*

Officer Selection; August 2000; 232p; In English, 9-11 Nov. 1999, Monterey, CA, USA; See also 20000098511 through 20000098541; CD-ROM contains full text document in PDF format

Report No.(s): RTO-MP-55; AC/323(HFM)TP/27; ISBN 92-837-0016-3; Copyright Waived; Avail: CASI; A11, Hardcopy; A03, Microfiche; C01, CD-ROM

The Human Factors and Medicine (HFM) Panel held a workshop on "Officer Selection" at the Hilton Hotel in Monterey, California, USA, 9th - 11th November 1999. The theme of this workshop, officer selection, is an issue of central importance to the military forces of all countries, since it determines which individuals, with what characteristics, will be available to lead the forces in the future. Thirty-three workshop papers were presented by representatives from: Austria, Belgium, Canada, the Czech Republic, Denmark, France, Germany, Italy, The Netherlands, Poland, Singapore, Sweden, Switzerland, Turkey, Ukraine, the UK, and the USA. The workshop provided an opportunity for cross-fertilization of ideas between military and civilian personnel managers and researchers across many professional disciplines.

Author

Personnel Selection; Armed Forces; Personnel Management

20000101666 Research and Technology Organization, Systems Concepts and Integration Panel, Neuilly-sur-Seine, France

Simulation in Support of Flight Testing *La Simulation pour le Soutien des Essais en Vol*

Hines, Dennis O., Research and Technology Organization, France; September 2000; 57p; In English; The CD-ROM contains full text document in PDF format

Report No.(s): RTO-AG-300-Vol-19; AC/323(SCI)TP/27-Vol-19; ISBN-92-837-1043-6; Copyright Waived; Avail: CASI; A04, Hardcopy; A01, Microfiche; C01, CD-ROM

For over 40 years simulation has played a key role in flight testing. The purpose of this AGARDograph is to provide an introduction to simulation and how it can be used to support flight testing of fixed-wing aircraft. The document starts by considering the role of simulation, including a brief history and the costs and benefits associated with it. It then discusses the following types of simulations: analytic (non real-time), engineering or man-in-the-loop (real-time), hardware-in-the-loop, Iron Bird, and in-flight. Simulation development considerations described include: requirements definition; modelling of flight control systems, aerodynamics and the environment; cockpit fidelity, displays and force-feel systems; visual scenes, data display and analysis, including simulation and flight test integration; and verification and validation. The final sections consider how to conduct a simulation-based test programme and the future direction of simulation.

Author

Flight Simulation; Flight Tests; Flight Simulators; Aerodynamics; Fixed Wings; Aircraft Configurations

20000105060 Research and Technology Organization, Human Factors and Medicine Panel, Neuilly-sur-Seine, France
Operational Issues of Aging Crewmembers *les Consequences Operationnelles du Vieillessement des Equipages*
Operational Issues of Aging Crewmembers; August 2000; 275p; In English; In French; 33rd, 11-14 Oct. 1999, Toulon., France;
See also 20000105061 through 20000105089; CD-ROM contains full text document in PDF format
Report No.(s): RTO-MP-33; AC/323(HFM)TP/13; ISBN 92-837-0015-5; Copyright Waived; Avail: CASI; A12, Hardcopy; A03, Microfiche; C01, CD-ROM

The Human Factors and Medicine (HFM) Panel held a Symposium on "Operational Issues of Aging Crewmembers" in Toulon, France, from 11 to 14 October 1999. In many NATO countries, the populations in general are aging and military crewmembers are an increasingly older population. In downsizing militaries with scarce resources, the increasing costs of training and the significant experience (also at significant cost) of aging crewmembers make them an increasingly valued commodity, particularly as projected in the militaries of the future. Experience, wisdom, healthy lifestyles, and medical and technological advances seem to compensate to some extent for decreased performance and other adverse effects of aging (physical, physiological and psychological) in many crewmembers. Most "aging" studies have accumulated data on general civilian populations and data on the performance of aging crewmembers in military environments have not been previously summarized and presented on any large scale. Thus, the NATO HFM Symposium on "Operational Issues of Aging Crewmembers" was planned to present available data regarding whether or not healthy lifestyles, technological advances and compensatory factors of aging crewmembers, such as experience, adequately compensate for performance among various types of aging crewmembers (pilots, special crew, divers, etc.). If so, a re-evaluation of age policies for military crewmembers might be justified. The Symposium was divided into 3 sessions to accommodate the various topics related to aging crewmembers working in various stressful military environments. In the Session "Operational Aspects of Aging Crewmembers", papers were presented on G tolerance, jet lag, spinal disease, ECG findings during centrifuge training, hypoxia tolerance and time of useful consciousness during hypobaric flights, and pulmonary function in divers. In the Session on "Aging Crewmembers: Psychological and Cognitive Performance Implications", there were presentations on sleep, working memory, personality, behavior, fatigue, risk taking, safety and mission completion, psychological performance, cognitive and sensory limitations and neuropsychiatric referrals. During the final Session, on "Physiological and Sensory Aspects of Aging", papers were presented on anthrax immunization, growth hormone, endocrine responses to training programs, autonomic cardiovascular control, biochemical-metabolic indices, endothelial dysfunction, intima media thickness, cardiovascular risk factors, visual acuity, ocular problems, intraocular lenses, visual performance during small letter contrast tests and on modern cockpits.

Derived from text

Conferences; Aging (Biology); Age Factor; Research

20000108801 Research and Technology Organization, Systems Concepts and Integration Panel, Neuilly-sur-Seine, France
Technologies for Future Precision Strike Missile Systems *Les Technologies des Futurs Systemes de Missiles Pour Frappe de Precision*
September 2000; 98p; In English, 23-24 Mar. 2000, Atlanta, GA, Turin, Ankara, USA, Italy, Turkey; See also 20000108802 through 20000108809; The CD-ROM contains full text document in PDF format
Report No.(s): RTO-EN-13; AC/323(SCI)TP/25; ISBN 92-837-1037-1; Copyright Waived; Avail: CASI; A05, Hardcopy; A02, Microfiche; C01, CD-ROM

This lecture series addressed recent advances in the state-of-the-art for precision strike missile systems. Emerging technologies that were addressed in the lecture series included: (1) Missile aeromechanics technologies- Assessments included hypersonic airframes, low cost/high temperature structure, and ramjet propulsion. (2) Guidance & control technologies- An overview of existing guidance and control was given. Assessments included precision navigation using light weight/low GPS/INS and optimal guidance laws. (3) Seeker technologies- Assessments included active and passive imaging infrared and radar seekers. (4) Missile design technologies- Assessments included computer programs and electronic spreadsheets for conceptual design. (5) Missile/aircraft integration technologies- Assessments included high firepower weapon concepts, reduced observables, and insensitive munitions. (6) Simulation/validation technologies- Assessments included hardware-in-the-loop and design validation. (7) Automatic target recognition- Assessments included robust algorithms and hardware/algorithm optimization.

Author

Lectures; Missile Systems; Missile Control; Radar Homing Missiles; Inertial Navigation; Missile Design; Target Recognition; Aerodynamics; Systems Integration

20000119918 Research and Technology Organization, Applied Vehicle Technology Panel, Neuilly-sur-Seine, France
Design for Low Cost Operation and Support *La Conception en Vue d'une Exploitation et d'un Soutien a Cout Reduit*
September 2000; 161p; In English; In French, 21-22 Oct. 1999, Ottawa, Canada; See also 20000119919 through 20000119934;
The CD-ROM contains full text document in PDF format
Report No.(s): RTO-MP-37; AC/323(AVT)TP/16; ISBN 92-837-0012-0; Copyright Waived; Avail: CASI; A08, Hardcopy; A02,
Microfiche; C01, CD-ROM

The Specialists' Meeting discussed the Life Cycle Costs (LCC) of all military equipment and the applicability of LCC models developed for existing and future systems. There were four sessions covering the following topics: Introduction to Operation and Support Costs; Life Cycle Cost Modelling; Applications of Cost Modelling; and Techniques for Reduced Logistic Support Costs.

Author

Conferences; Papers; Life Cycle Costs; Low Cost; Operating Costs